

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A process for ~~the~~ production of synthesis gas from heavy charges comprising:

~~partially oxidizing a partial oxidation of~~ heavy charges with oxygen or air enriched in oxygen in ~~the~~ a presence of vapour carried out at temperatures higher than 1000°C and pressures equal to or higher than 20 atm;

~~and the subsequent cooling, after partially oxidizing, of the~~ a synthesis gas obtained, by ~~the direct injection of~~ directly injecting water into the synthesis gas itself followed by the ~~separation of~~ separating the water effected by means of an adduction pipe surrounded by ~~a~~ an open concentric tube open at both ends so as to form a ring through which ~~the~~ cooled gas and water can rise,

~~characterized in that wherein the~~ a distance (L) between ~~the~~ a lower end of the adduction pipe and ~~the~~ a lower end of the open concentric tube must be equal to or higher than x times ~~the~~ a diameter (D) of said lower end of said adduction pipe,

wherein x varies in relation to ~~the~~ a specific gas mass flow-rate (F), expressed in kg/h/cm², according to the equation $x = 0.026 F + 0.15$.